IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Christoph Lodde	Examiner:	Chang, Victor S.
Serial No.:	09/755,884	Group Art Unit:	1771
Filed:	January 5, 2001	Docket No.:	60150.0003US01
Title:	Textile Adhesive Tape		

DECLARATION OF CHRISTOPH LODDE

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir;

1. My name is Christoph Lodde. I am a citizen of the Federal Republic of Germany and the inventor named in U.S. Patent Application No. 09/755,884 filed January 5, 2001.

2. I am able to read and understand documents in the English language. Please note in the following my technical background:

    Birth date: February 25, 1966
    Birth place: Dortmund, Germany

    Curriculum vitae:

    July 1972 – Mai 1976: Basic School
    July 1976 – Mai 1985: High School (Humboldt Gymnasium)
    May 1985: Abitur (High School degree)
    September 1986 - October 1992: Study of Chemical engineering at the university of Dortmund

April 1992 – October 1992: Master Thesis "Mathematical simulation of Methane Gas Explosion under the influence of Inert Particles"

October 1992: Master degree of chemical engineering

January 1993 - October 1998: Project engineer for adhesive tapes and adhesive products at Coroplast Fritz Müller GmbH & Co. KG
Development of PVC insulation tapes
Development of Aluminium self adhesive tapes
Development of textile harness wrapping tapes (e.g. PET – cloth tapes and spun rayon tapes)
Development of non woven harness wrapping tapes

Since October 1998
Research and Development Director for adhesive tapes and adhesive products at Coroplast Fritz Müller GmbH & Co. KG

3. I have reviewed U.S. Patent No. 5,227,225 granted to Abboud L. Mamish (hereinafter *Mamish*). *Mamish* discloses a masking tape comprising a polyolefinic backing layer, a light weight nonwoven layer described as preferably of synthetic nonwoven material, and a layer of a pressure-sensitive adhesive. *Mamish* discloses his preferred backing layer as a two-layer backing consisting essentially of an outer layer of low-density polyethylene (LDPE) and an inner layer of high density polyethylene (HDPE) formed by coextrusion coating onto the nonwoven cloth layer.

4. The smallest thickness disclosed in Table 1 of *Mamish* for his coextruded backing layer is 1.5 mils (38.1 µm). However, *Mamish* does not explicitly state a minimum possible thickness for his coextruded backing layer. For that reason, I have calculated the basis weight for a minimum thickness of about 10 µm that could have been obtained by coextrusion, as known to me from the literature exemplified by Chinese Patent CN 1344616, a copy of which I am attaching to my declaration as Exhibit A. That minimum layer thickness of 10 µm is about one fourth of the lowest thickness of 1.5 mils (38.1 um) disclosed in Table 1 of *Mamish*. My calculations are on Exhibit B attached to my declaration.

5. *Mamish* discloses, in his Table 1, density values from 0.917 g/cm^3 to 0.958 g/cm^3. Those values are reproduced on page 1 of my Exhibit B. The calculation of the basis weight of impregnation (bwi) on page 2 of Exhibit B starts from a cube representing the density definition (1) applied to *Mamish*, then goes to the mass of a cuboid with an area of 1 m^2 of the basis surface and with the thickness of 1 cm (2) and finally, ends with the same cuboid but having the thickness of 10 µm according to CN '616.

6. The relevant formula for my calculation is:

bwi = ρ x d,

where bwi is the basis weight of (assumed) impregnation, ρ is the density and d the layer thickness.

7. The absolute minimum density value of 0.917 g/cm^3 of *Mamish* would lead to a limiting specific basis weight of impregnation of 9.17 g/m^2. However, my patent application claims a specific weight of 1 to 5 g/m^2, which at its greatest is less than 55 % of 9.17 g/m^2, the assumed absolute minimum possible basis weight of "impregnation" according the extrusion process of *Mamish*.

8. I have also used the density value of 0.958 g/cm^3 for my calculations because that value is closer to my patent application, in which preferably acrylate resins or polyurethane resins are used, as mentioned in page 2 of the specification for my patent application, which have a density of about 1.2 g/cm^3. Using the density value of 0.958 g/cm^3 of *Mamish* would lead to a limiting specific weight bwi of 9.58 g/m^2. Since my patent application claims a specific weight of 1 to 5 g/m^2 it is at its greatest less than 52 % of 9.58 g/m^2, the assumed typical minimum possible basis weight of "impregnation" according the extrusion process of *Mamish*.

9. Using the density value of 0.958 g/cm^3 of *Mamish*, which is the closest to my patent application and using the thickness value of 38.1 µm which is the minimal value disclosed by *Mamish* would lead to a specific weight bwi of 36.5 g/m^2. Since my patent application claims a specific weight of 1 to 5

g/m^2 it is at its greatest less than 13.7 % of 36.5 g/m^2, the absolute minimum real disclosed basis weight of "impregnation" according the extrusion process of *Mamish*.

10. From the foregoing calculations, it should be understood that a coating resin with a basis weight of impregnation (bwi) of 1 to 5 g/m^2, as I have disclosed and claimed in my present patent application, would not have been sufficient for coating the surface, embedding a light weight nonwoven as taught by *Mamish*, and could not have been applied using the coextrusion process described by *Mamish*. Accomplishing those results as described by *Mamish* would have required a coating resin having a basis weight at least about double that value as seen from my calculations under 7. and 8.. Using acrylate resins or polyurethane resins, the value of that minimum basis weight should be at least about 12 g/m^2 for applying a coating by the coextrusion process as described by *Mamish*. A thermoplastic resin with a basis weight of 1 to 5 g/m^2, as disclosed and claimed in my present application, would not have been sufficient for coating the surface and becoming embedded in a nonwoven fiber material having a basis weight of not more than 60 g/m^2, and could not be applied by the coextrusion process described in *Mamish*.

11. I have also reviewed U.S. Patent No. 4,558,888 issued to Gary R. Hanson and George R. Rabuse (hereinafter "*Hanson et al.*"). *Hanson et al.* disclose a binding tape comprising a nonwoven fibrous flexible backing having one surface coated with a pressure sensitive adhesive and the other surface sealed with a polymer barrier coating to restrict migration or flow of the adhesive to the opposite side of the tape. The adhesive is disclosed as coated onto the nonwoven backing with the objective to prevent wicking through the porous backing fabric. The barrier coat is a solvent-dispersible rubbery polymer disclosed to continuously coat the backing over the fibers and adhesive which exists in the interstices of the porous backing leaving a non-porous, non-tacky tape surface, which implies that some adhesive does enter at least part-way through the porous backing fiber.

12. I understand that my declaration may be submitted to the U.S. Patent and Trademark Office in my patent application identified above and that any false statements made herein may affect the validity of that application or

of any patent granted thereon. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of my application or any patents issuing thereon.

Christoph Lodde

13. 11. 2006
Date of Signing